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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Mezenner

Art Unit: 2873

Serial No.: 10/749,277

Examiner: Dinh, Jack

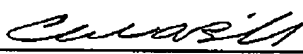
Filed: 31 December 2003

Docket No. TI-33824

For: VIA ADHESION IN MULTILAYER MEMS STRUCTURE

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<input type="checkbox"/> DIVISIONAL APP'N	<input checked="" type="checkbox"/> SECOND AUTO-REPLY (1 Page)
NAME OF INVENTOR(S): Mezenner	
RECEIPT DATE & SERIAL NO.: Application No.: 10/749,277	
TITLE OF INVENTION: VIA ADHESION IN MULTILAYER MEMS STRUCTURE	
Filing Date: 31 December 2003	
TI FILE NO.: TI-33824	DEPOSIT ACCT. NO.: 20-0668
FAXED: 12/02/2005	
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DEC 02 2005

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Mezenner

Art Unit: 2873

Serial No.: 10/749,277

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For: VIA ADHESION IN MULTILAYER MEMS STRUCTURE

## COMMUNICATION

2 December 2005

Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

MAILING CERTIFICATE UNDER 37 C.F.R. § 1.8 (a)	
I hereby certify that the above correspondence is being deposited with the U.S. Postal Service as First Class Mail in an envelope addressed to: Commissioner for Patents, PO Box 1450, Alexandria, Virginia, 22313-1450, or facsimile transmitted to the U.S. Patent and Trademark Office, on the date shown below.	
	2 Dec. 2005
Charles A. Brill	Date

Dear Sir:

In a telephone call on 1 December 2005, Ms. Amanda Ford informed the applicant that the U.S.P.T.O. does not have a complete copy of the amendment in response to the Examiner's Action facsimile transmitted to the U.S.P.T.O. on 11 November 2005. Ms. Ford stated the request for an extension of time was received, and requested the applicant resubmit the entire amendment. Accordingly, it is believed no petition or fee is required.

From the applicant's fax confirmation and the two auto-replies received by the applicant, it appears that the transmission was received by the U.S.P.T.O. as two separate transmissions—one of which was not identifiable and was therefore unable to be matched to the proper file.

Copies of the original coversheet, original amendment, facsimile confirmation, and two auto-replies accompany this communication.

Respectfully submitted,



Charles A. Brill  
Reg. No. 37,786

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\*\*\*\*\*-COMM.

NAL- \*\*\*\*\* DATE NOV-11-2005

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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Mezener

Art Unit: 2873

Serial No.: 10/749,277

Examiner: Dinh, Jack

Filed: 31 December 2003

Docket No. TI-33824

For: VIA ADHESION IN MULTILAYER MEMS STRUCTURE

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NAME OF INVENTOR(S): Mezener	
RECEIPT DATE & SERIAL NO.: Application No.: 10/749,277	
TITLE OF INVENTION: VIA ADHESION IN MULTILAYER MEMS STRUCTURE	
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<small>PAGE 14 * INQUIRY AT 11/11/2005 10:13:10 PM [Eastern Standard Time] * SVR:USPTO-EFXXRF-6/24 * DNIS:2738300 * CSID:214 567 7859 * DURATION (mm:ss):06-14</small>																																													

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**AMENDMENTS TO THE SPECIFICATION:**

Please replace the paragraph beginning on line 20 of page 7 with the following rewritten paragraph:

The DMD mirrors 14a typically range from 10 um to 16 um square and made of aluminum for maximum reflectivity. They are arrayed on 11 um to 17 um centers to form a dense matrix of pixels. The hinge layer 13 under the mirrors 14a permits a close spacing of the mirrors 14a, and because of the underlying placement of the hinges, an array of pixel elements 10 is referred to as a "hidden hinge" type DMD architecture.

Please replace the paragraph beginning on line 5 of page 9 with the following rewritten paragraph:

A spacer layer 21, identified as S1, is then deposited over the M3 layer 12 [14]. Spacer layer 21 may be formed from hardened photoresist. Later in the packaging flow, this spacer layer 21 is plasma-etched to form an air gap. A number of vias are then formed in spacer layer 21, formed by conventional pattern and etching techniques.

Please replace the paragraph beginning on line 16 of page 9 with the following rewritten paragraph:

FIGURES 4 - 6 illustrate fabrication of hinge layer 13. As explained below, hinge layer 13 contains both hinge 13a, spring tips 13b, and spring tip beams 13c (shown in Figures 1 and 7) from which the spring tips extend.

Please replace the paragraph beginning on line 26 of page 9 with the following rewritten paragraph:

FIGURE 5 illustrates a portion of the partially fabricated DMD having a via 31, similar to via 32 [1-e] and 33 of Figure 3, and the result of a patterned etch process. The etch leaves an oxide coating within the via [a] 31-32-ee-33. The oxide at the bottom of the vias covers the thin metal at the bottom of each via, thereby providing strengthening. A develop rinse is then performed, or other cleanup to remove residue and prevent surface contamination. As an

Amendment - Page 3

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